ABSTRACT OF THE DISCLOSURE

A system and a method for reverse link power control in a wireless communications network generates power adjust commands for mobiles being served by a network base station in a centralized manner by considering overall system performance when an increased interference condition is detected. In one implementation, a base station power control processor adopts a modified reverse inner loop power control (RILPC) and/or a reverse outer loop power control (ROLPC) algorithm when an increased interference condition is detected. According to the modified RILPC algorithm, a percentage of power-up adjust commands which would normally be generated when E_b/N_o measurements for served mobiles do not meet target E_b/N_o levels are converted to power down-adjust commands, thereby forcing some mobiles to reduce transmit power, at least temporarily, to constrain interference. When the increased interference condition persists, the percentage of power-up adjust commands which are converted to power-down commands may be changed. According to the modified ROLPC algorithm, the power control processor adjusts target E_b/N_o levels in a centralized manner based on an overall system state so that only a limited number of target E_b/N_o levels are allowed to increase when frame erasures occur. By preventing a percentage of target E_b/N_o level increases, at least temporarily, when frame erasures occur, a percentage of power up-adjust commands are avoided. Therefore, a similar effect to that achieved by the modified RILPC is achieved. In accordance with still a further implementation of the present invention, the modified RILPC algorithm may be used in combination with the modified ROLPC algorithm to provide greater resistance to increased interference conditions.